

WHAT IS CLAIMED IS:

1. A sensor system in a power converter motor for detecting at least one of a location, a position, a speed, and an acceleration thereof, comprising a signal generator for generating an analog sensor signal, an evaluation circuit for creating an evaluated analog sensor signal from the analog sensor signal, an analog/digital converter for converting the evaluated analog sensor signal into a digital output variable, a computing means for conversion of the digital output variable into a digital physical output variable value consisting of at least one of a speed value, acceleration value, and a location/position value, and an output interface for transmitting the digital physical output variable value to a higher-order processing unit at synchronous deterministic times.
2. The sensor system according to claim 1, wherein the synchronous output interface is a serial interface.
3. The sensor system according to claim 1, wherein the synchronous interface is a bus system.
4. The sensor system according to claim 1, wherein the signal generator is a resolver.

5. The sensor system according to claim 1, wherein the signal generator is an optical encoder.
6. A drive control system comprising a sensor system, including a signal generator for generating an analog sensor signal, an evaluation circuit for creating an evaluated analog sensor signal from the analog sensor signal, an analog/digital converter for converting the evaluated analog sensor signal into a digital output variable, a computing means for conversion of the digital output variable into a digital physical output variable value consisting of at least one of a speed value, acceleration value, a location/position value, and an output interface for transmitting the digital physical output variable value to a higher-order processing unit at synchronous deterministic times, and a control unit which communicates with the sensor system through the output interface of the sensor system at a controller cycle rate of the higher-order processing unit.
7. The drive control system according to claim 6, wherein the output interface is a communication system with a master-slave structure in which the control unit is a master and the sensor system is a slave.
8. The drive control system according to claim 6, wherein the sensor system is configured to transmit at least one of a temperature, a pressure, and a flow

value from a drive through the output interface to the control unit as digital physical output variables.

9. A method of networking a control unit with one or more sensor systems, comprising decoupling the respective sensor physics and the respective evaluation circuit from the control electronics and moving them into the respective sensor system, and effecting communication between the control unit and each sensor system by means of a digital transmission protocol.

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